

**THE NEW FORMATION OF ZINC LAYERED HYDROXIDE-
3,4-DICHLOROPHENOXYACETIC ACID NANOHYBRID BY
SOLID- SOLID INTERCALATION METHOD.**

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ABSTRACT

THE NEW FORMATION OF ZINC LAYERED HYDROXIDE-3,4-DICHLOROPHENOXYACETIC ACID NANOHYBRID BY SOLID-SOLID METHODS.

3,4-Dichlorophenoxyacetic acid was successfully intercalated in zinc layered hydroxide by solid- solid intercalation method using zinc oxide (ZnO) and 3,4-Dichlorophenoxyacetic acid (3,4-D) as the precursor. From the analysis through Fourier Transform Infrared (FTIR), the carboxylate functional group peak was detected at wavelength of 1613cm^{-1} and 1591cm^{-1} . It showed that the intercalation happen as 3,4-D will converted into ion before being intercalated into ZnO. Analysis through Powder X-Ray Diffraction (PXRD) showed basal spacing of 18.7 \AA indicate that the intercalation was successful. Addition of different amount of water which act as activation for molecular mobility of sample mixture showed that high amount of water would accelerate the reaction between herbicides and ZnO.